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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,029	08/17/2001	Syuuichi Azechi	0171-0773P-SP	2691

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 06/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,029

Applicant(s)

AZECHI ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-17 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5, and 7-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Azechi et al., U.S. Patent # 6,490,090

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Azechi *claims* an invention that mirrors that which is presently disclosed in virtually every respect with the notable exception that an adhesion promoter is not mentioned in any of the claims. However, it is volunteered in column 13, lines 2-9 that an adhesion promoter containing epoxide groups, alkoxy groups, or Si-H moieties may be incorporated into the formulation where improved adhesion towards substrates including plastics, glass, etc. is sought.

Claims 3 and 7 recite the same limitations as claims 3 and 4 of the reference (except, of course, the inclusion of an adhesion promoter which is taught by the reference but not claimed.

As for claim 8, claim 4 of the reference discloses an addition reaction-type curing agent. Materials used in curing by this mechanism are disclosed in column 11, lines 37-67 through column 12, lines 1-43 and include organohydrogensiloxanes and platinum hydrosilylation catalysts.

As for claims 11 and 12, treatment of the silica particles with a silicon-based compound having reducing properties such as polysilanes, polysiloxanes, and polysilazanes prior to plating them with nickel, and subsequently gold, is taught at the bottom of column 4. Conversion of said silicon-based compound to a ceramic following the plating steps is disclosed in column 10, lines 29-40.

The particle size and surface area limitations recited in claims 14-16 are taught in column 3, lines 32-35 and column 4, lines 1-4.

It is acknowledged that the Examiner previously had indicated that this reference was unavailable under the terms of the AIPA. However, it has since been established that rejections under 35 U.S.C. 102(e) over references that are, ostensibly, commonly assigned should be made and the Applicant will be given the opportunity to illustrate ownership of that invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 8-9, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schleifstein, U.S. Patent # 6,241,914 in view of Abrams et al., U.S. Patent # 4,419,279. Schleifstein discloses an electrically-conductive silicone composition that may be employed in electrical devices where considerable heat is generated without unacceptable increases in resistivity due ostensibly to the decomposition of the polymer matrix catalyzed by residual metal catalyst into volatile silicone oligomers. The composition is stabilized against polymer degradation by the incorporation of one of various nucleophiles that will not inhibit polymer cure under usual conditions but will prevent depolymerization by occupying coordination sites on the metal catalyst. The essential ingredients of the composition are:

(i) a polydiorganosiloxane having terminal hydrolysable- or alkenyl groups (column 9, lines 53-67 through column 10, lines 1-29),

(ii) a curing agent that is selected based on the type of base polymer employed and may include an organohydrogenpolysiloxane/platinum catalyst mixture or condensation-type catalyst and silane crosslinking agent (column 10, lines 41-67 and columns 11 and 12.), and

(iii) an electroconductive filler selected from metal particles, multi-layered particles having a non-conductive or conductive core (Ni, Pb, Cu) and a noble metal (Ag

or Au) cladding. Alternatively the electrically-conducting filler may feature an inorganic mineral core onto which a conductive metal or metals may be plated, noble metal in particular. It is the position of the Office that a particle featuring a silica inorganic core having a first coating layer comprising nickel and a second surface layer comprising gold would be an obvious example of a mineral core onto which metals have been plated in view of the teachings in column 8, lines 25-50. Indeed, Patent # 4,419,279 identifies silica (column 7, line 9) as one of the mineral materials embodying the mineral core.

In addition to these components, Schleifstein also contemplates the incorporation of one or more types of silica (column 12, lines 57-64) for imparting thixotropy, non reinforcing fillers, or those having a surface area of less than 50 m²/g, catalyst inhibitors, pigments, compression set additives, and *adhesion promoters* (column 13, lines 15-18).

As for claims 14 and 15, one of ordinary skill in the art would, as a matter of routine experimentation vary the particle size/surface area of the conductive particles to ensure that a desirable level of conductivity is realized in the matrix. (Schleifstein states that the amount will depend on the size and morphology of the particles among other considerations (column 14, lines 63-65).

As for claim 16, the amount of particle incorporation is expressed in terms of the weight contribution of the filler to the total weight of the composition which, at 40% to 80%, would encompass the range outlined in claim 16.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schleifstein, U.S. Patent # 6,241,914 and Abrams et al., U.S. Patent # 4,419,279 as

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applied to claims 1, 3, 8-9, and 14-16 above, and further in view of Kleyer et al., U.S. Patent # 6,465,550. Schleifstein only makes cursory mention of the adhesion promoter and, hence, does not alone render obvious the subject matter of claims 4 and 5. On the other hand, Kleyer discloses an electrically-conductive silicone composition that, likewise, is intended to exhibit better stability with regards to resistivity build-up by relying on a similar approach. That is, Kleyer also adds a nucleophile (alcohols) of different chemical constitution than those disclosed by Schleifstein as a means of achieving the same objective. Like Schleifstein, Kleyer provides for the incorporation of an adhesion promoter such as an epoxy- or mercapto-functionalized silanes. In view of the numerous similarities between these inventions, it would have been obvious to use the compounds delineated by Kleyer as adhesion promoters in the invention taught by Schleifstein where an adhesion promoter was desired.

Allowable Subject Matter

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers

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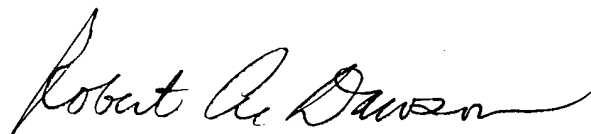
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for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

June 17, 2003

A handwritten signature in cursive script, reading "Robert A. Dawson".

Robert Dawson
Supervisory Patent Examiner
Technology Center 1700